

In re Patent Application of
NORDSTROM ET AL.
Serial No. 09/555,816
Filed: OCTOBER 10, 2000

REMARKS

Applicants thank the Examiner for the careful and thorough examination of the present application. By this amendment, original Claims 1-23 have been canceled and replaced with new Claims 24-46 which differ from the translated counterpart claims for better readability and the Examiner's convenience. The newly submitted claims do not represent changes or amendments that narrow the claim scope for any reason related to the statutory requirements for patentability. Claims 24-46 are now pending in the application. Favorable reconsideration is respectfully requested.

As an initial matter regarding the Examiner's statement concerning Applicants' claim for priority under 35 U.S.C. §371, the Examiner is respectfully directed to review the "NOTIFICATION OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C. §371 AND 37 CFR 1.494 OR 1.495" mailed by the USPTO on October 31, 2000 indicating the "DATE OF RECEIPT OF 35 U.S.C. §371 REQUIREMENTS" as October 10, 2000 based upon a request for examination filed by Applicants on June 5, 2000. It should be clear from such notice, from the filing documents, and from the applicable laws and rules, specifically 35 U.S.C. §371, that the Examiner's statements are erroneous, and Applicant in fact has been granted and is entitled to a claim for priority under 35 U.S.C. §371. Applicants request the Examiner to indicate such in the next Office communication.

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I. The Invention

As shown in FIG. 1, the disclosed invention is directed to multi-carrier transmission systems, including copper based transmission systems such as ADSL, VDSL and HDSL which use DMT and/or radio based transmission systems using OFDM. More specifically, the invention is directed to data scramblers, descramblers, systems and methods making use of the synchronization frames, normally used for measuring channel characteristics, as a source of pseudo-random data which can be combined with user data.

II. The Claims are Patentable

Claims 10-13 were objected to as allegedly being in improper multiple dependent form for the reasons set forth on page 3 of the Office Action. Applicants direct the Examiner to page 2 of the preliminary amendment filed on October 10, 2000 which eliminated such improper multiple dependencies. Thus, the Examiner's objection is erroneous. Furthermore, original Claims 10-13 have now been rewritten as new Claims 34-36.

Claims 1-23 were rejected in view of Applicants priority document. For the reasons given above, Applicants maintain that the priority document does not qualify as prior art under 35 U.S.C. §102(b) and the rejection in view thereof should be properly withdrawn.

Claims 1-23 were rejected in view of Mannerling et al. (U.S. Patent No. 6,137,839) in view of Kloker (U.S. Patent No. 4,539,684) together or in combination with Salava (U.S.

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3,586) for the reasons set forth on pages 4-8 of the Office Action. Applicants contend that new Claims 24-46 clearly define over the cited references, and in view of the following remarks, favorable reconsideration of the rejection under 35 U.S.C. §103 is requested.

Mannering et al. is directed to a discrete multitone (DMT) digital subscriber loop (xDSL) telecommunication system having a transmitter portion including a bit encoder, inverse fast Fourier transform (FFT), parallel-to-serial converter, digital-to-analog converter and line driver for transmitting data signals to a twisted pair telephone line and a receiver portion including an analog-to-digital converter, serial-to-parallel converter, forward FFT and bit decoder for receiving data signals from the twisted pair telephone line. However, as correctly recognized by the Examiner, there is no teaching of a scrambler, descrambler or the use of any synchronization frames as a source of pseudo-random data which can be combined with incoming user data.

Kloker is directed to a communication system including an encoder and decoder for the transmission of digital information over a transmission medium, the system having frame synchronization and error correction. The encoder processes a data stream and generates a transmission bit stream of N bits using convolutional encoding, auto-synchronization sequence combining, and bit interleaving. Kloker is not directed to a multi-carrier transmission system but discloses the use of an autosynchronization sequence combined with input data to reduce the transmission bit stream

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and obtain frame synchronization at the receiver using a multiphase sequential decoder, as shown in FIGs. 3 and 4 of Kloker.

Applicants maintain that the Examiner is impermissibly using the teachings of Applicants' own patent application as a roadmap to modify the prior art. For example, as noted above, the method and apparatus of Mannerling does not discuss or teach the use of a scrambler, descrambler or any synchronization frames as a source of pseudo-random data. Also, Kloker is concerned with reducing the length of the transmission bit stream and not with producing an uncorrelated data stream for transmission in a multi-carrier transmission system.

Additionally, the Salava patent teaches the use of a pseudo-random code signal with shift registers. However, nothing in Salava makes up for the deficiencies of the Mannerling and Kloker as discussed above.

As the Examiner is aware, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim features. The initial burden is on the Examiner to provide some suggestion of the desirability of doing what the Applicants have done. To support the conclusion that the claimed invention is directed to obvious subject matter,

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either the reference must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the reference. Both the suggestion to make the claimed combination and the reasonable expectation of success must be founded in the prior art and not in Applicants' disclosure.

There is simply no teaching or suggestion in the cited references to provide the combination of features as claimed. Accordingly, for at least the reasons given above, Applicants maintain that the cited references do not disclose or fairly suggest the invention as set forth in Claims 24-46. Furthermore, no proper modification of the teachings of these references could result in the invention as claimed. Thus, the rejection under 35 U.S.C. §103(a) should be withdrawn.

III. Conclusion

In view of the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance. An early notice thereof is earnestly solicited. If, after reviewing this Response, there are any remaining informalities which need to be resolved before the application can be passed to issue, the Examiner is invited and

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respectfully requested to contact the undersigned by telephone
in order to resolve such informalities.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has
been forwarded via facsimile number 703-872-9306 to the
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-
1450 this 30 day of December, 2003.

